

Ontario Influenza Bulletin

2006-2007 Season

SURVEILLANCE WEEK 18-19 (April 29-May 12) 2007

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from April 29 – May 12, 2007, (Weeks 18 & 19). The analysis for this issue occurred on Thursday May 17, 2007, therefore all data is current to that date unless otherwise specified.

Overall, influenza activity in Ontario during Weeks 18 and 19, 2007 was similar to week 17. Ten sporadically occurring cases of influenza, eight influenza A and two influenza B, were reported through iPHIS from health units. There were no reports of institutional outbreaks of influenza. For Week 19, the highest level of influenza activity in Ontario was 'localized activity' reported from Central East region. All the other regions except Toronto reported 'sporadic' activity levels. Toronto reported 'no data' for the influenza activity level.

As of May 5, 2007, the Bulletin will be published on alternate weeks and the GIS map of influenza activity levels will be posted on 'non-Bulletin' weeks under 'Weekly Influenza Surveillance Maps' at the following link: http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu_mn.html

Please continue to submit weekly activity reports weekly by 4 p.m. every Tuesday. Please refer to page 14 for report submission dates.

For a definition of influenza-like illness (ILI) activity levels and links to websites providing current influenza information from other sources, please refer to the attached Appendix- I. If you would like to provide feedback on the Bulletin, please contact Christine D'Souza (christine.dsouza@moh.gov.on.ca, 416-212-5323) or Anne-Luise Winter (anne-luise.winter@moh.gov.on.ca, 416-327-7301).

Table 1: Summary of confirmed influenza cases and institutional influenza outbreaks by health region (Weeks 18 & 19, 2007).

Confirmed Influenza cases*	HEALTH REGION							TOTAL
	North West	North East	Eastern	Central East	Toronto	South West	Central West	
Influenza A	0	1	1	1	3	1	1	8
Influenza B	0	0	0	0	2	0	0	2
Influenza A & B	0	0	0	0	0	0	0	0
Total new cases	0	1	1	1	5	1	1	10
Institutional influenza outbreaks‡	0	0	0	0	0	0	0	0

SOURCE: MOHLTC (iPHIS, Health Unit Reports to PHD)

* Includes reports of sporadically occurring influenza through iPHIS, as well as cases in institutional outbreaks, with dates of onset in the surveillance period.

‡ Confirmed outbreaks in institutions with onset date of symptoms during the surveillance period.

Table 2: Confirmed cases of influenza by health unit & health region, with an episode date[†] during Weeks 18 & 19, 2007.

Region	Health Unit	Confirmed Influenza		
		Influenza A	Influenza B	TOTAL
North West	Northwestern	0	0	0
	Thunder Bay District	0	0	0
	TOTAL NORTH WEST	0	0	0
North East	Algoma	0	0	0
	North Bay Parry Sound District	0	0	0
	Porcupine	1	0	1
	Sudbury & District	0	0	0
	Timiskaming	0	0	0
	TOTAL NORTH EAST	1	0	1
Eastern	City of Ottawa	1	0	1
	Eastern Ontario	0	0	0
	Hastings & Prince Edward Counties	0	0	0
	Kingston, Frontenac, Lennox & Addington	0	0	0
	Leeds, Grenville And Lanark District	0	0	0
	Renfrew County And District	0	0	0
	TOTAL EASTERN	1	0	1
Central East	Durham Region	0	0	0
	Haliburton, Kawartha, Pine Ridge	1	0	1
	Peel Region	0	0	0
	Peterborough County-City	0	0	0
	Simcoe Muskoka District	0	0	0
	York Region	0	0	0
	TOTAL CENTRAL EAST	1	0	1
Toronto	Toronto	3	2	5
	TOTAL TORONTO	3	2	5
South West	Chatham-Kent	0	0	0
	Elgin-St. Thomas	0	0	0
	Grey Bruce	1	0	1
	Huron County	0	0	0
	Lambton County	0	0	0
	Middlesex-London	0	0	0
	Oxford County	0	0	0
	Perth District	0	0	0
	Windsor-Essex County	0	0	0
	TOTAL SOUTHWEST	1	0	1
Central West	Brant County	0	0	0
	City Of Hamilton	0	0	0
	Haldimand-Norfolk	0	0	0
	Halton Region	1	0	1
	Niagara Region	0	0	0
	Waterloo Region	0	0	0
	Wellington-Dufferin-Guelph	0	0	0
	TOTAL CENTRAL WEST	1	0	1
	TOTAL ONTARIO	8	2	10

SOURCE: MOHLTC [iPHIS, Health Unit Reports have been extracted using CRN at PHD]

[†] Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

Table 3: Cumulative* confirmed cases of influenza by health unit & health region with an episode date† between September 1, 2006 – May 12, 2007

Region	Health Unit	Confirmed Influenza		
		Influenza A	Influenza B	TOTAL
North West	Northwestern	49	0	49
	Thunder Bay District	16	0	16
	TOTAL NORTH WEST	65	0	65
North East	Algoma	22	0	22
	North Bay Parry Sound District	77	0	77
	Porcupine	48	0	48
	Sudbury & District	34	1	35
	Timiskaming	9	0	9
	TOTAL NORTH EAST	190	1	191
Eastern	City Of Ottawa	164	7	171
	Eastern Ontario	30	4	34
	Hastings & Prince Edward Counties	28	0	28
	Kingston, Frontenac, Lennox & Addington	102	1	103
	Leeds, Grenville And Lanark District	26	0	26
	Renfrew County And District	11	0	11
	TOTAL EASTERN	361	12	373
Central East	Durham Region	69	0	69
	Haliburton, Kawartha, Pine Ridge	138	2	140
	Peel Region	188	7	195
	Peterborough County-City	97	0	97
	Simcoe Muskoka District	124	0	124
	York Region	104	2	106
	TOTAL CENTRAL EAST	720	11	731
Toronto	Toronto			
		517	9	526
	TOTAL TORONTO	517	9	526
South West	Chatham-Kent	10	0	10
	Elgin-St. Thomas	10	0	10
	Grey Bruce	44	1	45
	Huron County	32	0	32
	Lambton County	11	0	11
	Middlesex-London	48	0	48
	Oxford County	19	0	19
	Perth District	40	0	40
	Windsor-Essex County	35	1	36
	TOTAL SOUTHWEST	249	2	251
Central West	Brant County	21	0	21
	City Of Hamilton	252	2	254
	Haldimand-Norfolk	22	0	22
	Haltom Region	111	1	112
	Niagara Region	83	0	83
	Waterloo Region	120	0	120
	Wellington-Dufferin-Guelph	86	0	86
	TOTAL CENTRAL WEST	695	3	698
	TOTAL ONTARIO	2,797	38	2,835

SOURCE: MOHLTC (iPHIS, Health Unit Reports have been extracted using CRN at PHD)

* Cumulative case counts include late reports and records that are otherwise reconciled. Therefore, cumulative counts may not equal new cases plus previous cumulative value.

† Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

Influenza Subtype(s):

During Week 19, 1609 isolates were received by the Public Health Agency of Canada, with a total of 11 testing positive for influenza A and 45 for influenza B. The majority of influenza A isolates (7) were from Ontario (63.6%), while 2 (18.2%) were from Alberta and 1 (9.1%) each was from Newfoundland and New Brunswick. Of the 45 influenza B isolates, 37 were from Quebec (82.2%), while 3 each (6.7%) were from Alberta and New Brunswick. *

Antigenic Characterization:

The National Microbiology Laboratory (NML) has characterized 931 influenza viruses for the 2006-2007 influenza season: 251 (27%) A/New Caledonia/20/1999(H1N1)-like, 585 (63%) A/Wisconsin/67/05(H3N2)-like, 12 (1%) B/Malaysia/2506/2004-like, and 83 (9%) B/Shanghai/361/2002-like. All but the B/Shanghai/361/2002-like strain are included in the composition of the 2006-2007 Canadian influenza vaccine. Of the influenza A viruses characterized, 78% of the A(H1N1) viruses were from the West while the majority of the A(H3N2) viruses were from Ontario (54%) and British Columbia (25%). **

Antiviral Resistance:

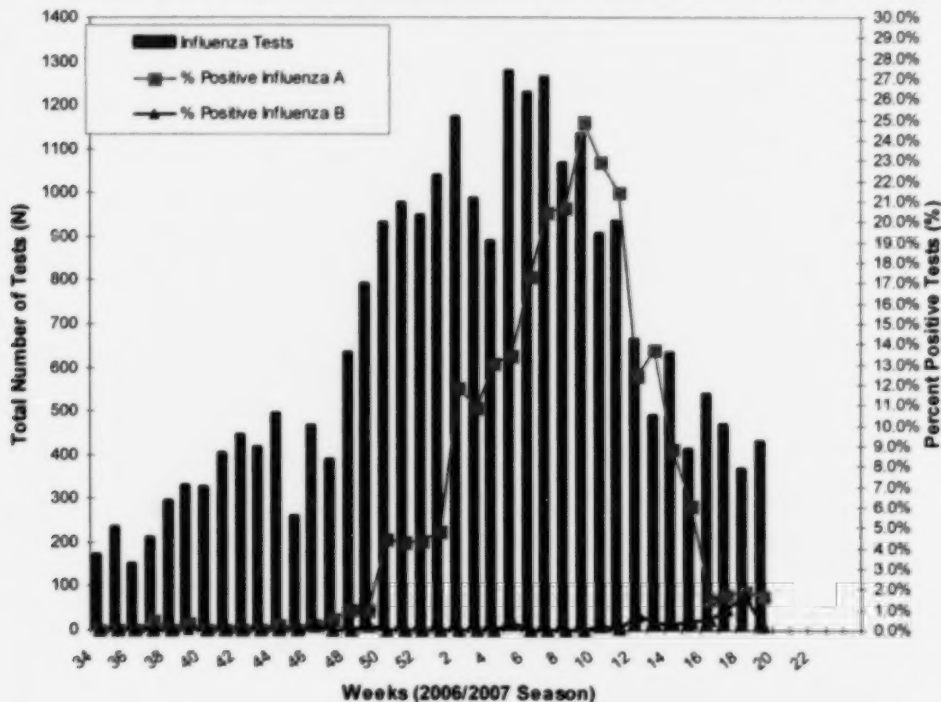
Since the start of the season, the NML has tested 941 influenza A isolates (245 H1N1, 696 H3N2) for amantadine resistance. Two (0.8% or 2/245) of the H1N1 isolates tested were resistant to amantadine (the resistant isolates originated from Ontario). Of the H3N2 isolates tested, 35% (242/696) were resistant. Of the 919 isolates (846 influenza A, 73 influenza B) tested for oseltamivir resistance, none were found to be resistant. **

Note: Based on the World Health Organization recommendations, Canada's National Advisory Committee on Immunization (NACI) recommended the **2006-2007** influenza vaccine contain an **A/New Caledonia-like**, an **A/Wisconsin-like** & a **B/Malaysia-like** virus strain.

* These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada for Week 19, 2007.

** These data have been obtained from the FluWatch report of the Public Health Agency of Canada for Week 18, 2007.

Figure 1: Total number of influenza tests performed and percent of positive tests in Ontario reported to the Centre for Infectious Disease Prevention and Control (CIDPC), by report week .



Source: Public Health Agency of Canada

* Total numbers reported include late reports; therefore totals may not be equal to the sum of the weekly numbers.

Note: Cumulative numbers for season to date are available from FluWatch: <http://www.phac-aspc.gc.ca/fluwatch/>

Table 4a: Institutional respiratory infection outbreaks in Ontario: New Outbreaks* in Weeks 18 & 19 and Total Outbreaks for the Season**

Institutional Respiratory Infection Outbreaks		
New Outbreaks*	N	% (of outbreaks)
Influenza A	0	0.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	0	0.0
RSV	0	0.0
Other organisms	0	0.0
No organism identified	10	100.0
TOTAL	10	100
Total Respiratory Infection Outbreaks of the Season to date**	N	% (of outbreaks)
Influenza A	174	25.6
Influenza B	2	0.3
Influenza A and B	1	0.2
Parainfluenza (All types)	37	5.5
RSV	86	12.7
Other organisms	29	4.3
No organism identified	350	51.6
TOTAL	679	100
Types of Institutions (All Outbreaks) **	N	% (of outbreaks)
Long-Term Care Homes	461	67.9
Hospitals	46	6.8
Retirement Homes	64	9.4
Other	3	0.4
Unknown	105	15.5
TOTAL	679	100

SOURCE: MOHLTC [iPHIS, Health Unit Reports have been extracted using CRN at PHD]

* New outbreaks are those in which the date of onset of illness in the first case occurred and recorded through iPHIS in the current surveillance period; i.e. April 29-May 12, 2007

** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2006 – May 12, 2007

Table 4b: Outbreak Related Complications in institutional respiratory infection outbreaks in Ontario during the Surveillance Season*

Outbreak Related Complications (All Outbreaks)	N	% (of total cases)
Total Cases		
Residents	8102	70.0
Patients	795	6.9
Staff	2683	23.2
Total Cases	11580	100
Deaths	N	% (of cases per role)
Residents	200	2.5
Patients	14	1.8
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)	N	% (of cases per role)
Residents	319	3.9
Patients	24	3.0
Staff	15	0.6
Hospitalizations	N	% (of cases per role)
Residents	375	4.6
Staff	1	0.0
Outbreak Related Complications (Influenza Outbreaks)	N	% (of total cases)
Total Cases		
Residents	2068	71.0
Patients	193	6.6
Staff	650	22.3
Total Cases	2911	100
Deaths	N	% (of cases per role)
Residents	64	3.1
Patients	4	2.1
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)	N	% (of cases per role)
Residents	126	6.1
Patients	14	7.3
Staff	6	0.9
Hospitalizations	N	% (of cases per role)
Residents	139	6.7
Staff	0	0.0

SOURCE: MOHLTC (PHIS, Health Unit Reports have been extracted using CRN at PHD)

* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2006 – May 12, 2007

Figure 2: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total Outbreaks from September 1, 2006 – May 12, 2007 by causative organism

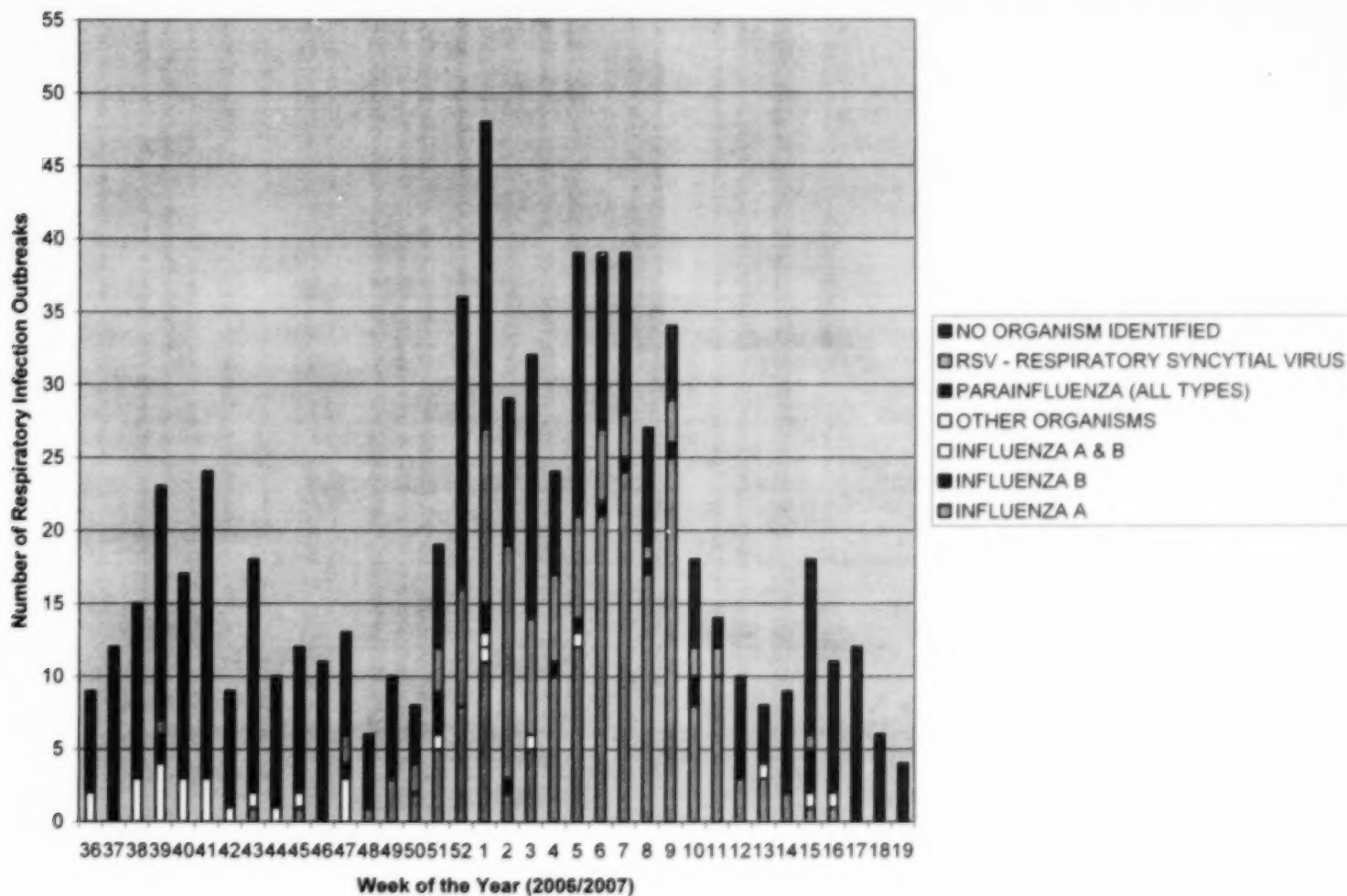
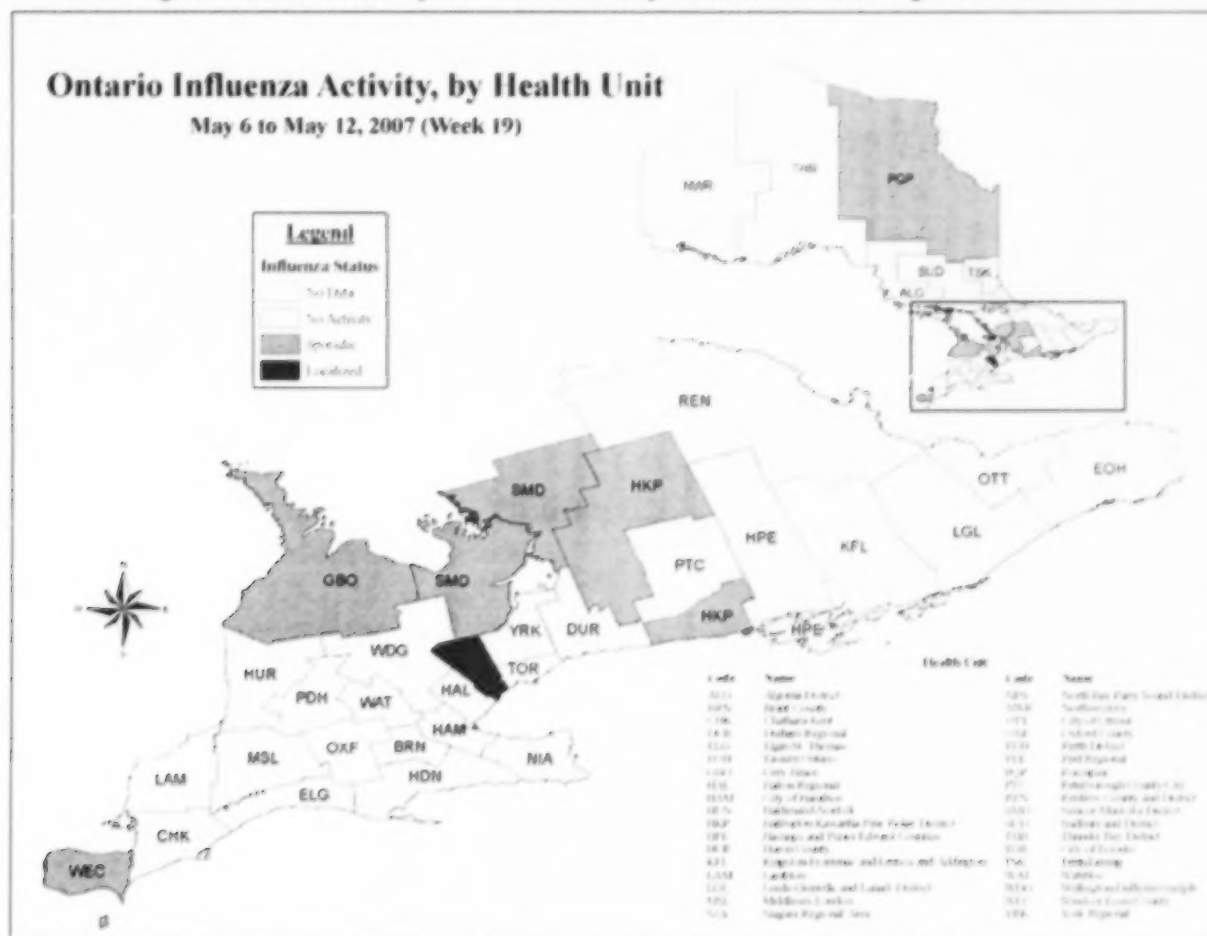


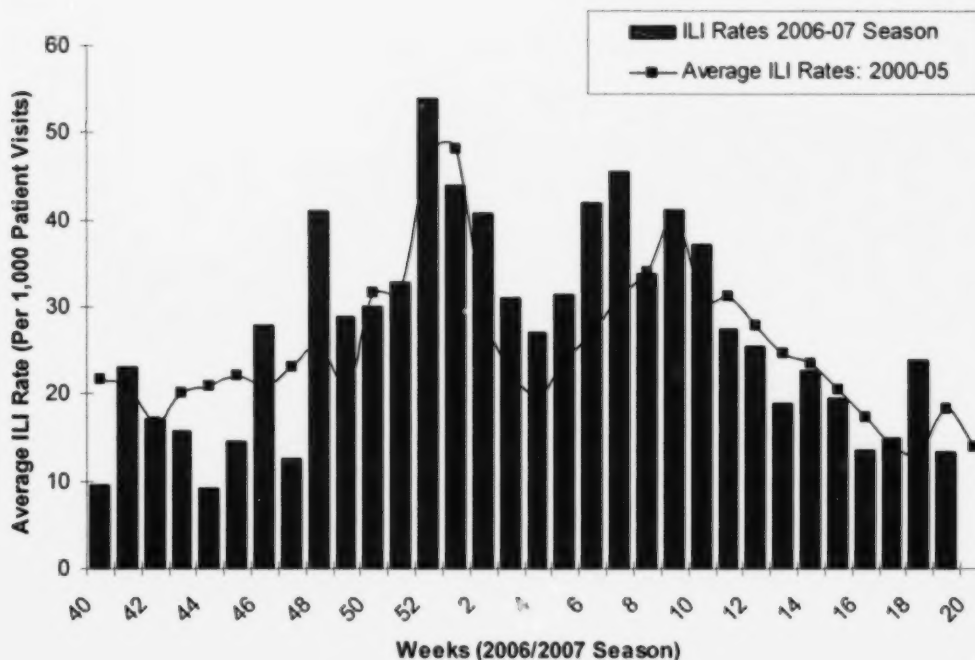
Figure 3: Influenza Activity* levels in Ontario by health unit & health region for Week 19



SOURCE: MOHLTC (Provincial Influenza Activity Report (Appendix C) Database)

* Influenza activity levels are assigned by local public health units and reported to the MOHLTC by the Tuesday following the end of the surveillance week at 4 pm. Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory confirmed institutional outbreaks. Please refer to detailed definitions for the 2006-2007 season included in the Appendix-11

Figure 4: Average influenza-like illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinel physicians* in Ontario in 2006- 2007 season, by report week, Compared to Ontario average † (1999/2000 to 2004/05 seasons).



Source: Public Health Agency of Canada

* Sentinel physician information is reported to Public Health Agency of Canada.

† No data available for mean rate in previous years for weeks 21 to 39 (1999-2000 through 2004-2005 seasons). During weeks 20-39, 2002-2003/2004-2005 seasons, ILI is reported once every two weeks, on even weeks only.

Table 5: Average Influenza-like illness consultation rate (per 1,000 patient visits) by age group and postal code as reported by Sentinel Physicians* in Ontario, for Week 18.

Postal Code	0 – 4	5 – 19	20 – 64	65 +	Unknown
K0C1A0	0	0	0	0	0
K1L8H2	0	0	3	0	0
K2L3C8	0	0	0	0	0
K2P1V3	0	0	0	0	0
K0H2N0	0	0	0	0	0
K7H2W6	0	0	0	0	0
K7L1E9	0	0	0	0	0
K0L1C0	0	0	0	0	0
L1A3W4	0	0	0	0	0
L1B1H8	1	1	3	0	0
L4J7Y3	0	0	0	0	0
L4G7Y3	0	0	0	0	0
M5M1B2	2	2	10	1	0
M4X1W4	0	0	0	0	0
M6G4A1	0	0	0	0	0
M4E1V8	0	0	0	0	0
M8Y1W3	0	0	0	0	0
M2J2Z1	0	0	0	0	0
M3H1T1	0	0	0	0	0
M2K1E1	0	0	0	0	0
M9W6N5	0	0	0	0	0
M9W4L6	0	0	0	0	0
M8V2Z5	0	0	0	0	0
L5J2W4	0	0	0	0	0
L4Y2N8	0	0	0	0	0
L6W2A4	2	5	0	0	0
L6V4H6	0	0	0	0	0
L9W1G2	0	0	0	0	0
N1H4G2	0	0	0	0	0
L6L2X4	0	0	0	0	0
L6L1X8	0	0	0	0	0
L9H1V1	1	0	0	0	0
L9H2G2	0	0	0	1	0
L0R1H0	0	0	0	0	0
L2E1Y3	0	1	1	0	0
L0R1B0	1	0	0	0	0
N3R7K8	0	0	0	0	0
N3C2E2	0	0	0	0	0
N2G1P2	0	0	0	0	0
N2M3B5	0	0	0	0	0
N5H1K9	0	0	0	0	0
N0M1T0	0	0	0	0	0
N0L1Z0	0	0	0	0	0
N6C2R5	0	0	0	0	0
N0M1L0	0	0	0	0	0
N0C1E0	0	0	0	0	0
L4R4P4	0	0	0	0	0
P0A1C0	0	0	0	0	0
P0P1S0	0	0	0	0	0
P0M2L0	0	0	0	0	0
P4N1C6	0	0	0	0	0
P7E1H5	0	0	0	0	0
P0W1E0	0	0	0	0	0
P9N3W7	0	0	0	0	0
ILI Sum	7	9	17	2	0
ILI Consultation Rate (per 1,000 patient visits)	72.92	64.29	20.36	5.03	0.00

Source: Public Health Agency of Canada

* Sentinel physician information is reported to the Public Health Agency of Canada

Note: The small numbers of sentinel physicians reporting at the local level make the ILI rates unstable. Please interpret these data correspondingly.

Table 6: Average Influenza-like illness consultation rate (per 1,000 patient visits) by age group and postal code as reported by Sentinel Physicians* in Ontario, for Week 19.

Postal Code	0 – 4	5 – 19	20 – 64	65 +	Unknown
K0C1A0	0	0	0	0	0
K1L8H2	0	0	1	1	0
K2L3C8	0	0	0	0	0
K2P1V3	0	0	0	0	0
K1J9M2	0	0	0	0	0
K7H2W6	0	0	0	0	0
K7L1E9	0	0	0	0	0
K0L1C0	0	0	0	0	0
L1A3W4	0	0	0	0	0
K0L1H0	0	0	0	0	0
K0M1A0	0	0	0	0	0
L1B1H8	0	0	0	0	0
L4L4Y7	0	0	0	0	0
L4J7Y3	0	0	0	0	0
L4G7Y3	0	0	0	0	0
M5M1B2	0	0	0	0	0
M4X1W4	0	0	0	0	0
M6G4A1	0	0	0	0	0
M4E1V8	0	0	0	0	0
M8Y1W3	0	0	0	0	0
M3H1T1	0	0	0	0	0
M2K1E1	0	0	0	0	0
M9W6N5	1	0	0	0	0
M9W4L6	0	0	0	1	0
M8V2Z5	0	0	0	0	0
L4Y2N8	0	0	0	0	0
L6W2A4	0	1	0	0	0
L6V4H6	0	0	1	0	0
L9W1G2	0	0	0	0	0
L6L1X8	0	0	0	0	0
L9H1V1	1	0	0	0	0
L2E1Y3	0	0	0	0	0
L0R1B0	1	0	0	0	0
N3C2E2	0	0	1	0	0
N2G1P2	0	0	0	0	0
N2M3B5	0	0	0	0	0
N5H1K9	0	0	0	0	0
N0P2C0	0	0	0	0	0
N0R1G0	0	0	0	0	0
N0M1T0	0	0	0	0	0
N6C2R5	0	0	0	0	0
N0G1L0	0	1	3	0	0
L4R4P4	0	0	0	0	0
P0A1C0	0	0	0	0	0
P0M2L0	0	0	3	1	0
P4N1C6	0	0	0	0	0
P7E1H5	0	0	0	0	0
P0W1E0	0	0	0	0	0
ILI Sum	3	2	9	3	0
ILI Consultation Rate (per 1,000 patient visits)	38.46	15.38	12.16	9.17	0.00

Source: Public Health Agency of Canada

* Sentinel physician information is reported to the Public Health Agency of Canada

Note: The small numbers of sentinel physicians reporting at the local level make the ILI rates unstable. Please interpret these data correspondingly.

FURTHER INFORMATION

1. Ontario Ministry of Health and Long-Term Care
Previous issues of the *Ontario Influenza Bulletin* can be accessed at:
http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu_06/flubul_mn.html
2. Health Agency of Canada
Issues of FluWatch can be accessed at:
www.phac-aspc.gc.ca/fluwatch/
3. United States Centers for Disease Control and Prevention
<http://www.cdc.gov/flu/weekly/fluactivity.htm>

INFORMATION ABOUT AVIAN INFLUENZA

For latest information on the status of avian influenza worldwide please use the following link:

Public Health Agency of Canada
<http://www.phac-aspc.gc.ca/h5n1/index.html>

APPENDIX - I

Definitions for influenza activity levels:

No Data: No activity report corresponding to the surveillance week was received at the Ministry of Health and Long-Term Care Call Centre by the Tuesday (at 4 p.m.) following the end of the surveillance period.

No Activity: No laboratory confirmed* influenza case(s) or outbreak detected during the past four weeks within the influenza surveillance region, however, sporadically occurring ILI may be reported†

Sporadic: Sporadically occurring ILI and laboratory confirmed influenza* case(s) with NO outbreaks detected within the influenza surveillance region†

Localized: sporadically occurring ILI and laboratory confirmed influenza* case(s) together with outbreaks of ILI in schools and/or worksites or laboratory confirmed influenza in residential institutions occurring in less than 50% of the influenza surveillance region(s)†

Widespread: sporadically occurring ILI and laboratory confirmed influenza* case(s) together with outbreaks of ILI in schools and/or worksites or laboratory confirmed influenza in residential institutions occurring in greater than or equal to 50% of the influenza surveillance region(s)†

* Confirmation of influenza within the surveillance region at any time within the prior week

† Sub-regions within the province or territory as defined by the provincial/territorial epidemiologist

Influenza-Like Illness (ILI) Definitions:

A) ILI in the general population:

Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which could be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

B) ILI/Influenza outbreaks:

Schools and work sites: greater than 10% absenteeism on any day, most likely due to ILI.

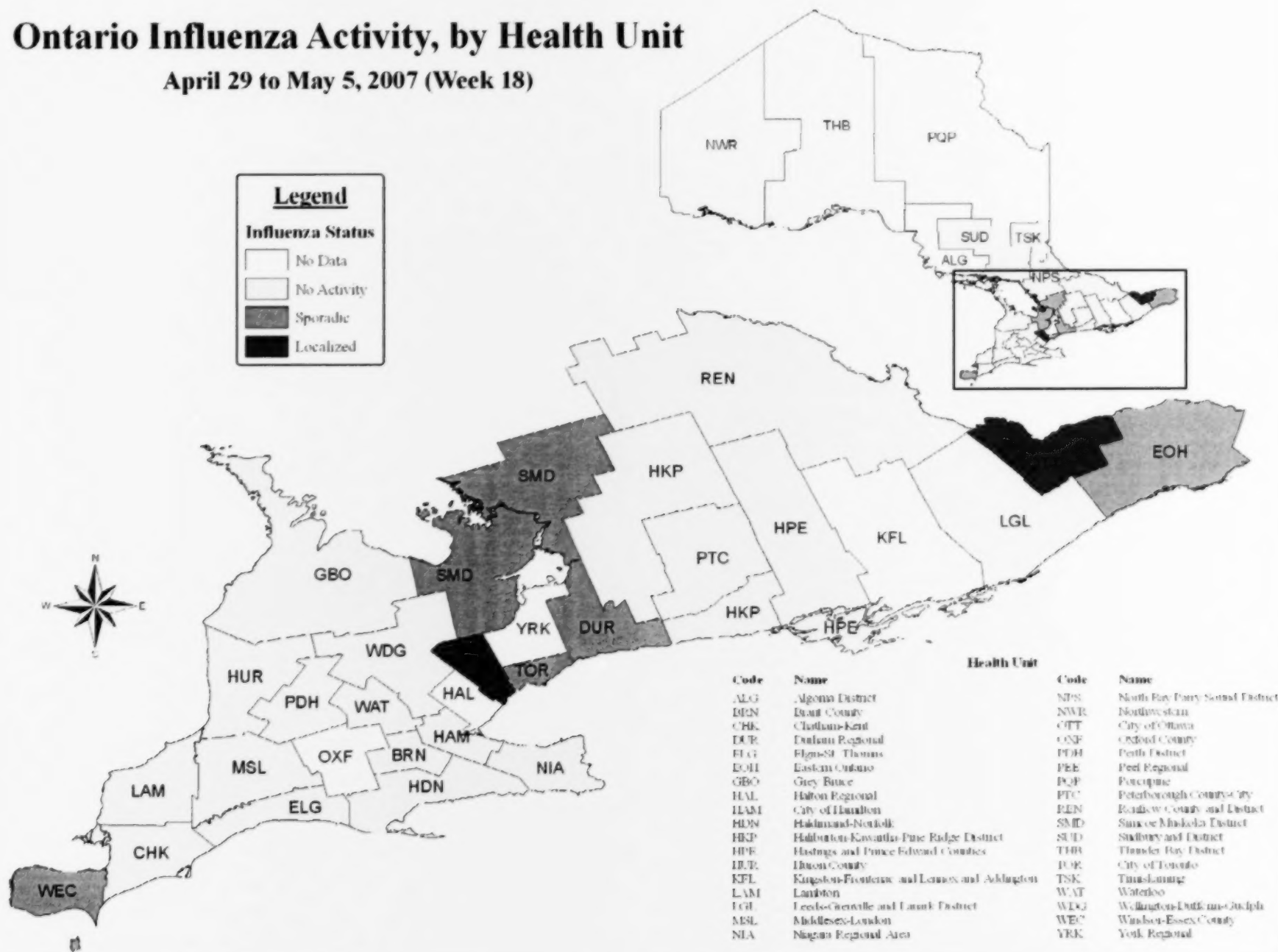
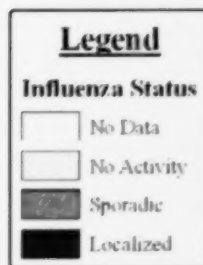
Residential institutions: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case.

Influenza Surveillance Weeks 2006-2007 and date of submission of Appendix C

WEEKS	START	END	Appendix C Submission to MOHLTC
20	13-May-07	19-May-07	22-May-07
21	20-May-07	26-May-07	29-May-07
22	27-May-07	2-Jun-07	5-Jun-07
23	3-Jun-07	9-Jun-07	12-Jun-07
24	10-Jun-07	16-Jun-07	19-Jun-07
25	17-Jun-07	23-Jun-07	26-Jun-07
26	24-Jun-07	30-Jun-07	3-Jul-07
27	1-Jul-07	7-Jul-07	10-Jul-07
28	8-Jul-07	14-Jul-07	17-Jul-07
29	15-Jul-07	21-Jul-07	24-Jul-07
30	22-Jul-07	28-Jul-07	31-Aug-07
31	29-Jul-07	4-Aug-07	7-Aug-07
32	5-Aug-07	11-Aug-07	14-Aug-07
33	12-Aug-07	18-Aug-07	21-Aug-07
34	19-Aug-07	25-Aug-07	28-Aug-07
35	26-Aug-07	1-Sep-07	4-Sep-07

Ontario Influenza Activity, by Health Unit

April 29 to May 5, 2007 (Week 18)



Code	Name	Code	Name
ALG	Algoma District	NPS	North Bay Parry Sound District
BEN	Brant County	NWR	Northwestern
CHK	Chatham-Kent	OTT	City of Ottawa
DUR	Durham Regional	ONF	Oxford County
ELG	Elgin-St. Thomas	PDH	Perth District
EOH	Eastern Ontario	PEE	Peel Regional
GBD	Grey Bruce	PQP	Perquimac
HAL	Halton Regional	PTC	Peterborough County-City
HAM	City of Hamilton	REN	Renfrew County and District
HDN	Haldimand-Norfolk	SMD	Simcoe Muskoka District
HBP	Haliburton-Kawartha-Pine Ridge District	SUD	Simulbury and District
HPE	Hastings and Prince Edward Counties	THB	Thunder Bay District
ILT	Ilion County	TOR	City of Toronto
KFL	Kawartha-Frontenac and Lennox and Addington	TSK	Timiskaming
LAM	Lambton	WAT	Waterloo
LGL	Leeds-Grenville and Lanark District	WDG	Wellington-Dufferin-Guelph
MSL	Middlesex-London	WEC	Windsor-Essex County
NIA	Niagara Regional Area	YRK	York Regional